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ABSTRACT

This curriculum packet contains two teacher-developed lesson plans, for use in the upper elementary grades, which focus on urban life. The first lesson plan, "Connecting Downtown" (Michael Gray), studies how engineering and design can make cities more efficient places. It provides a brief discussion on how people travel within large urban cores, such as using integrated walkway systems. The lesson plan suggests a time allotment; provides an overview; indicates subject matter; cites learning objectives; addresses standards and Center for Understanding the Built Environment (CUBE) components; notes materials needed; describes preparation time for teachers; presents an introductory activity, a learning activity, and a culminating activity; discusses evaluation/teacher reflection; suggests cross-curricular extensions and community connections, and contains nine images. The second lesson plan, "My Flag for the Future" (Michael Gray), aims for students to reclaim the symbol of their hometown by creating a new crest or logo students, working in teams of two or three. The second lesson plan offers the same type of detailed procedures for classroom implementation as the first lesson plan. Contains six images. (BT)

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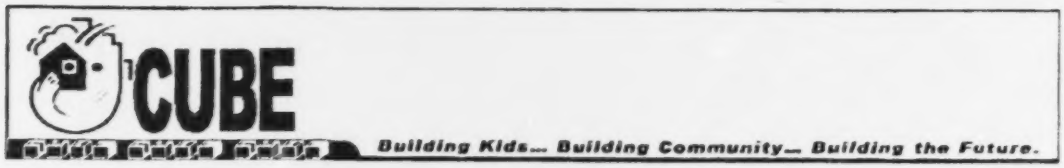

Community Connection Curriculum

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Community Connection Curriculum
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Connecting Downtown. 1

This lesson plan is designed to study how engineering and design can make cities more efficient places. In many large cities around the world pedestrian walkway systems are going above and beyond standard sidewalks. This lesson plan will begin with a brief discussion on how people get around in large urban cores. The discussion can move into the concept of elevated or underground walkways between large buildings in close proximity and why we would build these types of walkways?

My Flag for the Future. 12

This lesson is designed for students to re-claim the symbol of their hometown by creating a new crest or logo. Students will first study their hometown's logo or crest and comment on what it means to them. Following that, the students will work in teams of two to three to create a new logo or crest for the youth of their hometown.

Title:	**Connecting Downtown**
Author: **Organization:** **Location:**	Michael Gray Child and Youth Friendly Calgary Calgary, Alberta, Canada
Grade Level:	3 – 6
Time Allotment:	Three class sessions (75 minutes each) • One class on discovering integrated walkways systems using Calgary's *Plus 15* system as an example. • One class on building a model of a large office tower. • The final class on designing and building a model of an integrated walkway system connecting two buildings.
Overview:	This lesson plan is designed to study how engineering and design can make cities more efficient places. In many large cities around the world pedestrian walkway systems are going above and beyond standard sidewalks. This lesson plan will begin with a brief discussion on how people get around in large urban cores. The discussion can move into the concept of elevated or underground walkways between large buildings in close proximity and why we would build these types of walkways. The class can use the Calgary *Plus 15* system as an example to study; Web sites as well as pictures are available. Following a background discussion on integrated walkway systems, the class can design and create their own walkway system by having the students break into building teams so that they may build an office tower. Once the students have built their office towers, ask the students to pick a building they would like to connect to. The students will then proceed to work with a larger team in designing and constructing an integrated walkway connection between the two buildings. **What are Integrated Walkway Systems?** Integrated Walkway Systems (IPWs) are like highways and roads for automobiles except that they are designed for pedestrians and are predominately enclosed with temperature controls. IPWs come in many different sizes and shapes. The bulk of the building of IPWs began in the 1970's when office towers and large buildings were being constructed. Architects during the 1970's were looking at ways in which

	people could travel from one building to another without having to go outside, especially in cities that have extremely cold winters or hot summers. IPWs are not *always* designed as a connection between buildings above ground. In some cases IPW's are built underground. However, because of the high cost of building underground tunnels, many IPWs are built as bridges or skywalks.
Subject Matter:	Mathematics, Social Studies (Urban Planning, Team Work, Negotiation Skills)
Learning Objectives:	• Students will learn about integrated pedestrian walkway systems • Students will discover the reasoning behind integrated walkway systems • Students will work in teams creating models of buildings • Students will work in teams in designing and building an integrated walkway system between model building s
Standards:	**Alberta (Canada) Social Science Curriculum for Grade 3** http://www.learning.gov.ab.ca/k_12/curriculum/bySubject/ • Building with a variety of materials • Testing Materials and Designs
CUBE components:	**Structural Design Challenges** by Jan Ham (1996) **Community Connections** **Box City** (additional)
Materials:	For Buildings: • Cardboard boxes • Toilet/paper towel tubes • Construction paper (for doors/windows and possible wrap for building) • Glue or hot glue gun • Scissors • Rulers For Integrated Walkway Systems • Cardboard • Plastic Drinking straws • Playdoh • Tape and glue • Paper clips • Popsicle sticks • Construction paper

Prep for Teachers:	1) Background material on Calgary's *Plus 15* system is available on the Internet at these URL's. *http://www.calgaryplus.ca/feature/221/index.html* *http://www.gov.calgary.ab.ca/planning/land_use_planning/plus_15/index.html* (information and map are available at this Internet site) There are a number of pictures of Integrated Pedestrian Walkways (IPW) bridges on the Internet but it is easier to search for images of major cities and find the bridges in the background of pictures than by searching for the bridges themselves. **Some examples of these pictures can be found at the Lesson Images link on the Connecting Downtown Index page.** When searching try using different wording for searches such as skywalks, pedestrian bridges, downtown walkways, walkway bridges. Some sites that have pictures of IPWs. • *http://www.city.winnipeg.mb.ca/extreme/city_of_extremes/excellenttraffic.htm* • *http://www.rentcanada.com/cityscape/skywalk.jpg* • *http://www.swgc.mun.ca/tours/arts_sciences_tour.html* Some sites for IPWs • *http://167.142.103.203/310.html (Des Moines. Iowa)* • *http://www.flint.umich.edu/home/tour/bsky.htm (Flint, Michigan)* • *http://www.kcconvention.com/3_facility/3a15_parking.htm (Kansas City, Missouri)* • *http://www.emich.edu/public/geo/557book/d364.skywalks.html (Minneapolis/St. Paul)* 2) For the *Office Tower Building Contest* you will need to have a number of boxes available as well as all of the building materials prior to beginning this section of the lesson plan. 3) After the office towers have been built, and prior to the integrated walkway building class, number each of the buildings with a Post-It note. Create a list of teams that will be working together e.g. team 1 with team 16, team 2 with team 15, and so forth. **Optional**

	4) Ask the Vice-Principal or the Principal of the school to play the role of the wealthy Canadian Oil Company. Create a time when the students will present their final buildings with the integrated walkway system attached. The winner of the competition can be announced if the teacher decides to do so.
Introductory Activity:	**Background on Integrated Pedestrian Walkway systems** Integrated Pedestrian Walkways are common in most major cities in North America and Europe. However they are more common in northern climates (Canada and Northern Europe). • Ask the students why they would be more common in Northern climates? IPWs are designed to allow pedestrians to walk from one building to another. There are many different types of IPWs. • Ask the students ways that people could get from one building to another. List these on the board. • Discuss some of the observations. • Is an IPW good or needed in your city? What are the benefits and disadvantages? What about local merchants at street level, etc.? • Do we need every aspect of our lives to be climate controlled? Inform the students that the largest IPW in the world is located in Calgary, Alberta Canada. (If you have a map point out the city.) The system is called the *Plus 15* (called that because the bridges are 15 feet above the street) and it has been around for almost 30 years. The *Plus 15* currently has 57 bridges and 15 kilometers (9.3 miles) of public walkways. • *http://www.calgaryplus.ca/feature/221/index.html* • *http://www.gov.calgary.ab.ca/planning/land_use_planning/plus_15/index.html*
Learning Activity:	**Office Tower Building Contest** Have the students pair off into teams of two or three. Explain to the teams that they are to pretend that each of their teams are an architecture firm. A wealthy Canadian oil Company wants each of the firms to build a model of an office tower. This is a *competition* and only one model will win the multi-million dollar contract (you may hype this up as much as you want). Have the students construct an office tower using the supplies you provide. Allow the students to build however tall a building that

	they want with the exception that it must be free standing. Remind the students that this is a *design* contest not a *tallest* building contest. They must finish their building by the end of the allocated class time. **Additional Math Component** If you want to integrate scale into the project you may refer to the **Box City** curriculum section on scale. In addition, commercial building drawings are drawn in ⅛" scale (1" is equal to 8'). Have the students construct their buildings using this scale. Hint—most floors on office buildings are an average of 12' high.
Culminating Activity:	**Integrated Walkway** In the next class, after the model towers have been built, have the students pair off into their architecture teams. Announce that the Canadian Oil firm has stuck it rich in wind power and now needs to build another office tower. However, since there are so many great designs already built, the decision will be made based upon the following design requirements. • The oil company requires an integrated walkway system between the two office buildings because of the cold Canadian winters. • The walkway system must connect the two buildings at or about the third floors. • Explain to the students that each firm must team up with another to compete for the competition. Inform the teams that the following teams will work together with their buildings (use list created before class). Allow the students the class time to build a connection between the two buildings You may display the projects in the classroom or in another section of the school for other students to investigate. **Optional** 1) Once the integrated walkway systems are completed, inform the students that a representative from the Canadian Oil Company will be by shortly to judge the designs. Once that person is in the classroom, have them tour each of the designs and ensure that the students present their ideas. 2) Adding more to this project is not difficult. The students can write-up their design features and place on the models for people to read.

	3) Not all IPWs are connection between two buildings, some have three to four connections. The students could connect three or four buildings.
Evaluation/ Teacher Reflection:	This project is a design project and therefore can be evaluated as a design project. A) Define the design problem: • Whom are we designing for? • With what materials? • When should we be done? • Where will the final product end up? • Why are we doing this? B) At the end of the project ask the students: • Did you solve the stated design problem? • How well did you solve it? • What was the biggest challenge your team faced? • How did your team overcome the challenge? • What was the most important thing you learned from this project?
Cross Curricular Extensions:	This lesson plan can be integrate into the **Box City** program as well as the science curriculum for bridges.
Community Connections:	The community can be involved in this lesson plan by asking local engineers and planners to come to class to assist in designing and possibly playing the role of the Canadian Oil Company.

Image 1 - Two *Plus 15* bridges in Calgary. The one in the foreground is an enclosed glass bridge. The bridge in the background is an open bridge with a canopy protecting its users from rain and such, but is not heated.

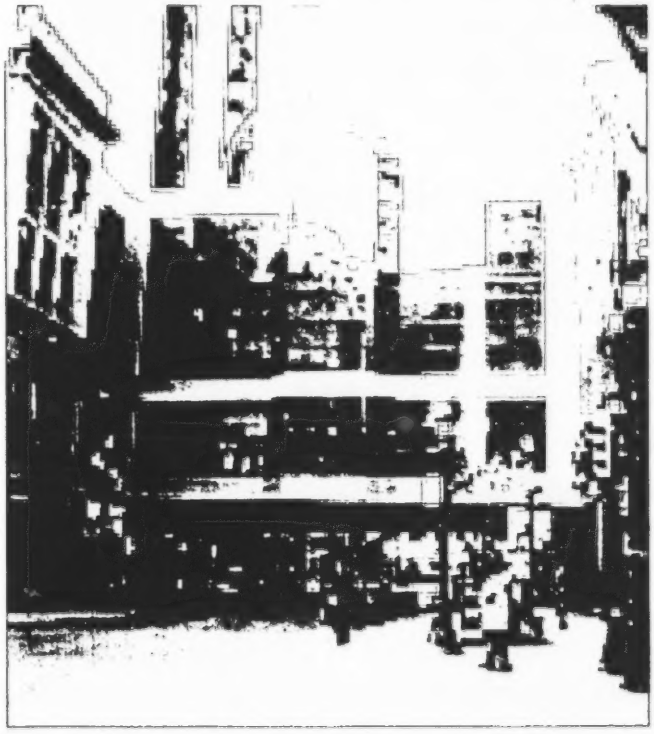

Image 2 - This *Plus 15* bridge in Calgary actually has three stories and is completely glassed in.

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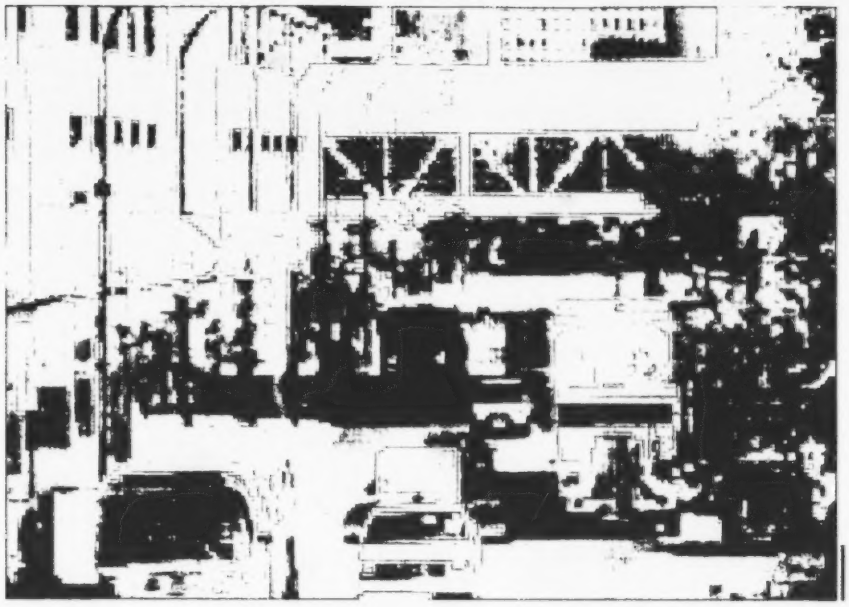

Image 3 - Winnipeg is a city in Manitoba, Canada and it also has an IPW in its downtown connecting a number of buildings.
www.city.winnipeg.mb.ca/extreme/city_of_extremes/excellenttraffic.htm

Image 4 - Another IPW in Winnipeg.
www.rentcanada.com/cityscape/skywalk.jpg

Image 5 - An IPW at Memorial University in Newfoundland, Canada.
www.swgc.mun.ca/tours/arts_sciences_tour.html

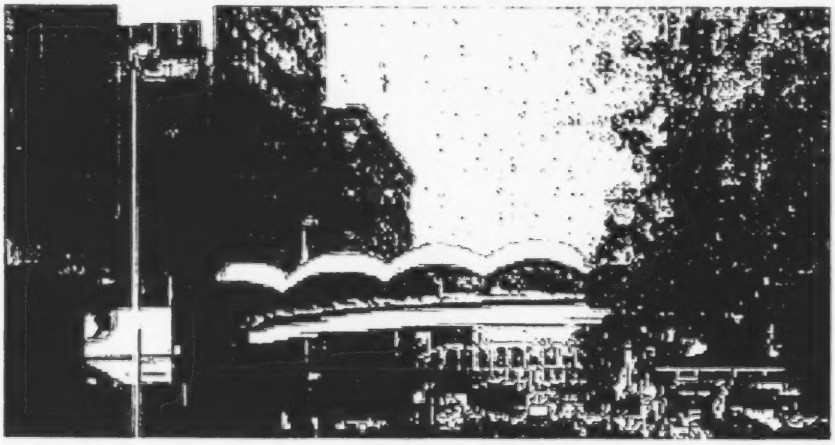

Image 6 - An IPW in Spokane Washington.
www.swgc.mun.ca/tours/arts_sciences_tour.html

Image 7 - An IPW at St. Luke's Hospital in Cedar Rapids, Iowa. www.swgc.mun.ca/tours/arts_sciences_tour.html

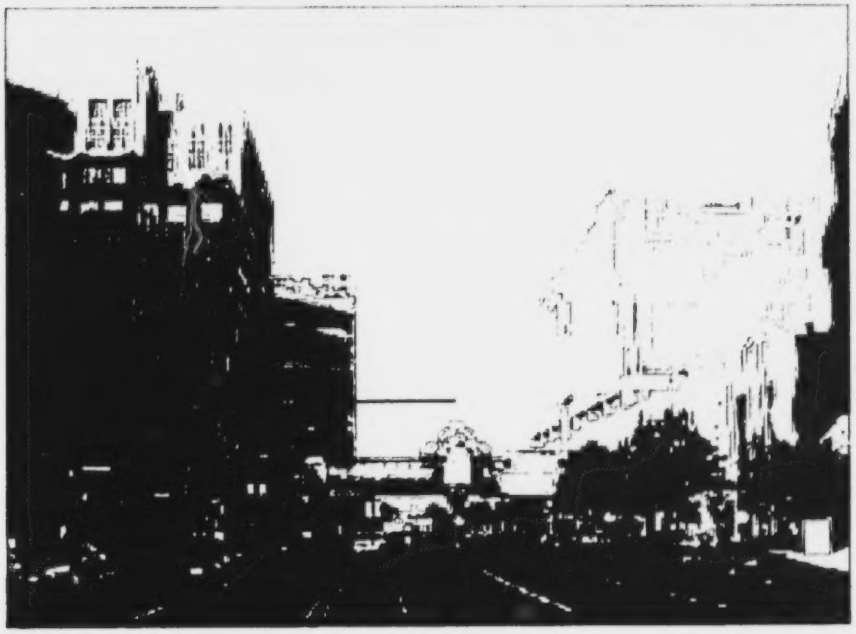

Image 8 - An IPW in Ballston, Virginia. www.beyonddc.com/cities/ballston.html

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Image 9 - Eaton's Center IPW in Toronto, Ontario. Canada.
www.swgc.mun.ca/tours/arts_sciences_tour.html

Title:	**My Flag for the Future**
Author: **Organization:** **Location:**	Michael Gray Child and Youth Friendly Calgary Calgary, Alberta, Canada
Grade Level:	3 – 6
Time Allotment:	75 minutes to 120 minutes
Overview:	This lesson is designed for students to re-claim the symbol of their hometown by creating a new crest or logo. Students will first study their hometown's logo or crest and comment on what it means to them. Following that, the students will work in teams of two to three to create a new logo or crest for the youth of their hometown.
Subject Matter:	Social Studies (Local history), Visual arts (art and symbol making) creative thinking
Learning Objectives:	• Students will learn about their local history and how it relates to symbols of pride. • Students will work as teams in articulating their symbols of pride in the creation of a new city logo or crest. • Students will work with a design process that is fun and promotes youth inclusion into civic decisions. • Students will present their crests or symbols to the class.
Standards:	**Alberta Social Science Curriculum** http://www.learning.gov.ab.ca/k_12/curriculum/bySubject/ Special Communities - customs and traditions (Grade 3) Local Governments (Grade 6) Arts Curriculum (Grades 3 and 4–level 2)
CUBE components:	Community Connections
Materials:	• Large 11"x17" paper • Crayons, pencil crayons, or markers
Prep for Teachers:	• Find an example of your hometown logo or crest. Find out (at city hall, perhaps) what the logo means, when it was designed and what might have been its predecessor.

	• Locate examples of other crests and logos from other towns and cities. • Read the short article on Heraldry at Encarta Encyclopedia online (http://encarta.msn.com/) • For younger students, you might want to provide a template of a crest to help the drawing process.
Introductory Activity:	**Background to Crests and Logos** Instructors should cue visuals from Intro Lesson Images Link and read the following script. (For more *Reading the Streets* exercises, see p. 54-58 in CUBE's **Walk Around the Block** curriculum.) **Instructor will read the following script to the classroom while showing intro lesson visuals:** ***Cue up Image 1.*** *Statues and monuments, logos and even a local building material used over and over can all be symbols of your community. The Prancing Pig stands as the proud symbol for Cincinnati, a city whose early beginnings depended on the pork industry. Town symbols can be used on the logo that appears on everything: stationery, signs, maps; and in some not-so-obvious places like the utility (manhole) covers. Centennial or other anniversary-type celebrations are a great opportunity to design a cover that will remind people of your community with every step they take.* ***Click to Image 2.*** *The utility cover for Louisville, Kentucky carries the fleur-de-lis, honoring Louis XVI, for whom Louisville is named.* ***Click to Image 3.*** *The utility covers can refer to state flowers and birds, to historical events or to the geographic landscape. This is the cover for Chattanooga, TN.* ***Click to Image 4.*** *The sunflower, the state flower of Kansas, has "grown" for years on the utility covers of this state. An unexpected treat is to find a very old one in a backyard, or in the dark depths of a shopping center parking lot. These utility covers create a real "sense of place" through design.* ***Click to Image 5.*** *Two students' designs for new utility*

covers.

Click to Image 6. *These students made a study of the covers in their neighborhood before beginning their designs.*

During Medieval Europe, the noble class was considered as its own "little government". They only had to obey their king or queen, the ultimate ruler during these times. These families were very rich and powerful and controlled large armies of knights and soldiers. When families sent their armies to battle, they would allow their knights (their most trusted and powerful soldier) to wear a symbol of the family on their surcoat over their coat of mail (a part of the knights' armor). This is why the crests are sometimes referred to as a "coat of arms".

Although the original purpose of the "coat of arms" was identification of family association, the practice spread through Europe and moved over to North America to the colonies.

Today, many companies, corporations, and cities have crests or logos that are used in order that people can identify them. Think of some of the most popular logos or crests that you know. McDonalds' golden arches, Nike's swoosh, Apple Computers' apple and so forth.

Hometown Symbols

Option 1 - Students research their hometown logo or crest. This option makes use of the Researching Your Hometowns Logo or Crest handout located at the end of this pdf.

Option 2 - Teacher initiates Lesson Plan whereby the teacher has researched their hometown logo or crest.

- Introduce the lesson by talking about your hometown logo or crest.
- Ask the students what the logo or crest means to them.
- Record their answers.
- Discuss some of the observations.
- Explain what the history is behind the logo or the crest of your hometown.
- Explain when it was designed and if the citizens of that day were involved in the process.

	• If so, why do you think that they picked the crest or the logo that they did? Does it symbolize: • The past? • The future? • The main industry? • The spirit of the community *then*? • The history of the community? • The landscape of the community? • The founders?
Learning Activity:	**Child and Youth Friendly Symbols** Using the knowledge that the students have gained on *why* towns and cities create logos and crests, explain to the students that they will create a new crest or logo for their hometown, except that this logo or crest will represent or "tell the mature citizens" about the young citizens. Have the students work in teams of three or four to begin brainstorming what youth-centric symbols or ideas they have for a new logo or crest. Once they have agreed on a design, allow the team to start drawing and coloring.
Culminating Activity:	**Presenting Our Symbols** Once all of the teams have created their logos or crests, have a design exhibition in your class. The students will present their designs to the class and talk about the inspiration for their particular logo. In addition, you may invite someone from City Hall to attend the presentation.
Evaluation/ Teacher Reflection:	This project allows students to create a youth-friendly version of their hometown's logo or crest. Ask the students: 1) Why is it important to have a logo or crest for our hometown? 2) When you did see the logo or crest, do you feel that it accurately represents the city/town today? 3) Why do you feel that a youth-friendly version of your hometown's crest or logo is needed? You can also evaluate the students.
Cross Curricular Extensions:	**Art class**—Get the art teacher involved in this project! **Music**—Groups of students or the entire class may want to

	write a youth-friendly anthem for the hometown.
Community Connections:	Invite community members in to the class along with local civic politicians for an art exhibit. Invite a group of seniors in to work on a joint project that will have both senior friendly and youth-friendly in one crest or logo.

Researching Your Hometown's Logo or Crest

Please answer the questions that will assist you in researching your hometown's logo or crest.

1. Have you ever seen your hometown's logo or flag? If you have seen it or have a copy of it available place it below or try to draw a picture of it here.

2. If you have not seen it or are not sure if there is one, here are some suggestions as to finding out if there is a logo or crest for your hometown.

    - If you have access to the Internet, try your hometown's web site. Many cities and towns put their logos and crests on their web site. You can print off a copy of it from the web site.
    - Phone the local government switchboard or information line. The number will be in the phone book. If they inform you that they *do* have a logo or crest, ask them where you may find a copy of it.

3. Once you have a copy of the logo or crest. Answer the following questions:

    - What does the logo or crest say about your hometown's past present and future?
    - What pictures are on the logo or crest?
    - Are there words on the logo or crest? If so, what do they say?

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Image 1 – Prancing Pig, symbol of Cincinnati

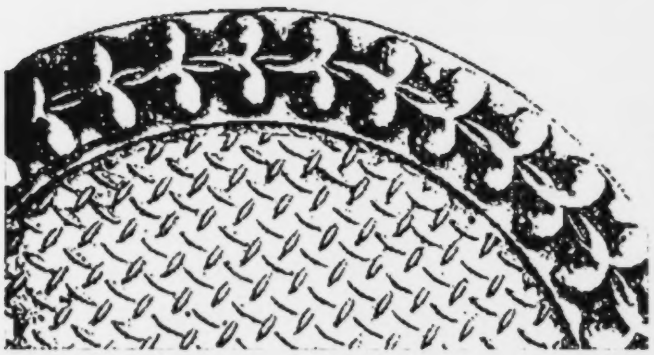

Image 2 – Manhole Cover, Louisville, Kentucky

Image 3 – Manhole Cover – Chattanooga, Tennessee

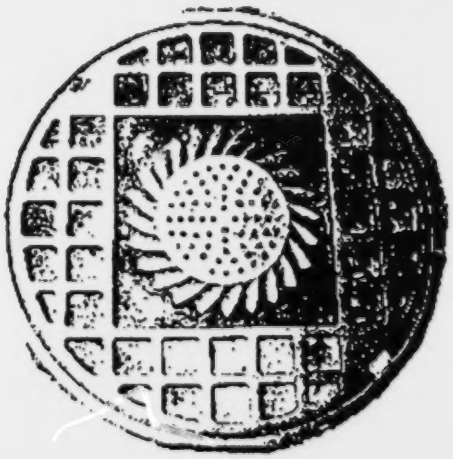

Image 4 – Manhole Cover Sunflower

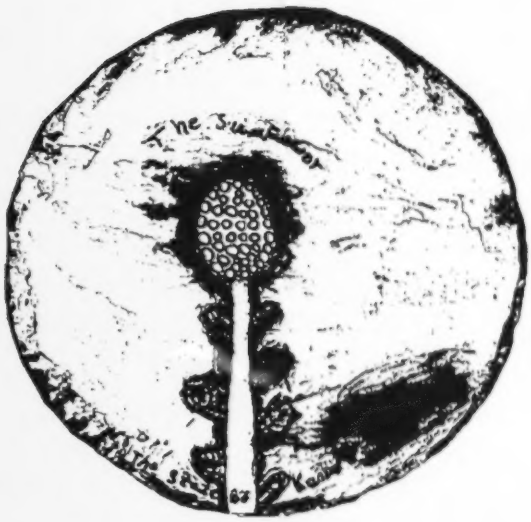

Image 5 – Manhole cover designed by student

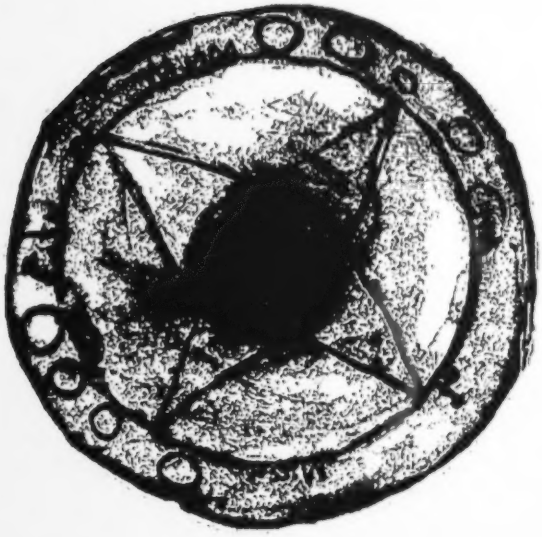

Image 6 – Manhole Cover designed by student

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